

Notice of Allowability

Application No.

09/923,079

Examiner

Michael V Battaglia

Applicant(s)

KUNIMATSU, YASUKIYO

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08 November 2004.
2. ☒ The allowed claim(s) is/are 1-12 (now renumbered as 1-9,11,10 and 12 respectively).
3. ☒ The drawings filed on 06 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Allowable Subject Matter

Claims 1-12 are allowable over the prior art of record. Claim 10 is allowable for the reasons previously specified in the first Office action. In regard to claim 1, none of the references of record alone or in combination suggest or fairly teach a phase compensation method which uses a phase plate to compensate for an optical phase of a reproduced signal in a reproducing optical system which is provided with respect to the reproduced signal from an optical recording medium, comprising the steps of: recognizing a type of the optical recording medium; and **controlling a position of the phase plate to an arbitrary inclination angle within a predetermined variable range depending on whether a track of the medium is a land or a groove, the arbitrary inclination angle differing depending on the type of the optical recording medium**, so that a carrier-to-noise ratio of a reproduced signal from a track which is being reproduced becomes a maximum or, a DC fluctuation of the reproduced signal becomes a minimum or, a crosstalk level from tracks adjacent to the track which is being reproduced becomes a minimum.

In regard to claim 2, none of the references of record alone or in combination suggest or fairly teach a phase compensation method which uses a phase plate to compensate for an optical phase of a reproduced signal in a reproducing optical system which is provided with respect to the reproduced signal from an optical recording medium, comprising the steps of: (a) detecting a position of the phase plate where a carrier-to-noise ratio of a reproduced signal from a track which is being reproduced becomes a maximum or, a DC fluctuation of the reproduced signal becomes a minimum or, a crosstalk level from tracks adjacent to the track which is being reproduced becomes a minimum; **(b) storing control data related to the position of the phase plate depending on whether the track is a land or a groove, the position of the phase plate differing depending on a**

type of the optical recording medium; and (c) controlling the position of the phase plate to an arbitrary inclination angle within a predetermined variable range based on the control data.

In regard to claim 6, none of the references of record alone or in combination suggest or fairly teach an optical storage apparatus comprising: a phase plate configured to compensate for an optical phase of a reproduced signal from an optical recording medium; a detector configured to detect a position of the phase plate; a varying unit configured to vary the position of the phase plate; and **a control unit configured to control the position of the phase plate to an arbitrary inclination angle within a predetermined variable range depending on whether a track of the medium is a land or a groove, the arbitrary inclination angle differing depending on a type of the optical recording medium**, so that a carrier-to-noise ratio of a reproduced signal from a track which is being reproduced becomes a maximum or, a DC fluctuation of the reproduced signal becomes a minimum or, a crosstalk level from tracks adjacent to the track which is being reproduced becomes a minimum.

In regard to claim 12, none of the references of record alone or in combination suggest or fairly teach an optical storage apparatus comprising: **a first phase plate configured to compensate for an optical phase of a reproduced signal from an optical recording medium, a second phase plate which is fixed within the optical storage apparatus**; a detector configured to detect a position of the first phase plate; a varying unit configured to vary the position of the first phase plate; and **a control unit configured to control the position of the first phase plate within a predetermined variable range depending on a type of the optical recording medium**, so that a carrier-to-noise ratio of a reproduced signal from a track which is being reproduced becomes a maximum or, a DC fluctuation of the reproduced signal becomes a minimum or, a crosstalk level from tracks adjacent to the track which is being reproduced becomes a minimum.

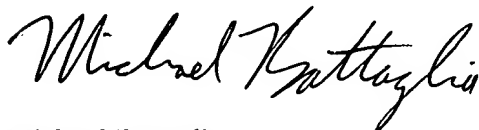
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Conclusion

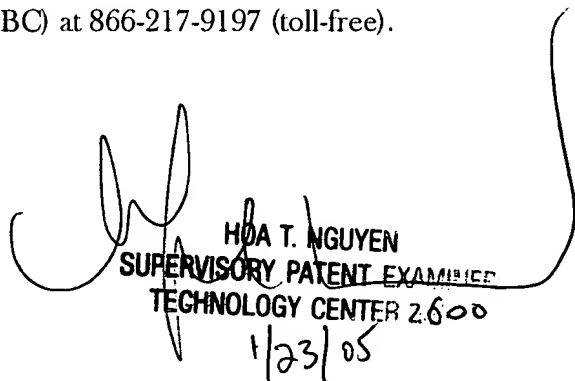
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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1/23/05